Minutes
August 17-18, 1998
Reston, Virginia

Mark Riebau, Chairman, called the meeting to order at 8:30 a.m. on August 17, 1998. He introduced May Maniam, Fannie Mae, representing Kevin Hickey who was unable to attend; and Cindy Croxdale of FEMA's Mitigation Division.

Members Present:

Bowker, Peggy, NFDA
Buckley, Mike, FEMA-MT[1]
Challstrom, Charlie, NOAA
Craun, Kari, USGS
Hull, Don, AASG
Hyde, Brian, ASFPM
Lathrop, Wendy, ACSM
LeQuang, Al, Freddie Mac
Maniam, May (representing Kevin Hickey), Fannie Mae
Moye, Mike, NationsBank
Riebeau, Mark, ASCE

Others Present:

Croxdale, Cindy, FEMA-MT
DeGroot, Bill, NAFSMA, Technical Advisor
Gambel, John, FEMA-MT
Grimm, Mike, FEMA-MT
Magee, Sally, FEMA-MT
Murphy, Jim, Michael Baker Corp.
Pajak, Mary Jean, FEMA-MT
Parsons, Brian, ASCE
Rathbun, Hazel, Megan, Inc.
Sawyer, Lynn, FEMA/FIA
Sparrow, Jeff, Dewberry & Davis

Minutes of Atlanta Meeting, May 31-June 1, 1998

The draft minutes of the Atlanta meeting distributed to members were reviewed and revised. Revisions were recorded, and the Chair directed the recording secretary to incorporate them and distribute the revised minutes.

On motion duly made and carried, the minutes of the meeting on May 31-June 1, 1998, were approved as revised.

[1] "FEMA-MT" refers to the Federal Emergency Management Agency, Mitigation Directorate.

Minutes of Teleconference Meeting, July 16, 1998

The draft minutes of the July 16 teleconference distributed to members were reviewed and revised. Revisions were recorded, and the Chair directed the recording secretary to incorporate them and distribute the revised minutes.

On motion made by Kari Craun and seconded by Don Hull, the minutes of the teleconference meeting on July 16, 1998, were approved as revised.

Charles Challstrom expressed frustration at not being able to participate in the call. Mary Jean Pajak said she would work on having a system in place before the next teleconference call that would enable participants to call into a specific number, rather than having the FEMA operator call them.

Modernization Plan Discussion

Mike Buckley said a very successful meeting was held between FEMA and OMB and that OMB supports the proposal from a programmatic standpoint but is concerned about funding. The budget examiner has submitted questions regarding the proposal and responses should be drafted by the end of the week. One question submitted by OMB was "what do others think of this?" FEMA will refer to letters of support to the agency in its response. There will be a follow-up meeting to discuss funding options. FEMA intends to include this project as a line item in its FY 2000 budget, which is scheduled to go to OMB in September. The Administration's target date for transmittal of its budget to Congress is mid-January.

Sally Magee had sent Council members a package of materials (71 pages) regarding map modernization. Mr. Buckley said he hoped that by assigning priorities to objectives, much can be accomplished. Mr. Riebau noted that the Council has been asked to have members provide input in their areas of expertise.

FEMA Director James Lee Witt has been discussing this issue with Dan Golden, of NASA, and a meeting is to be held within the next few weeks. It will be attended by Director Witt, Dan Golden, Mike Armstrong, and Mike Buckley. Director Witt believes there should be a strong partnership with NASA. Mr. Buckley's understanding is that technology is not currently available at NASA to provide the level of detail needed for mapping directly from satellite imagery. NASA has a satellite in place that can collect radar-type images and can provide some information on elevation, coordinates, soil, moisture in soil and vegetative cover. NASA is proposing to develop a satellite at some future time utilizing something similar to LIDAR. Mary Jean Pajak said it is important to educate them as to FEMA's need in applying the technology. Mr. Buckley noted that FEMA is supplying $350,000 for a demonstration project in California this year that will use LIDAR and IFSAR apparatus on aircraft.

Mr. Riebau questioned whether technology exists for sub-meter levels. Ms. Pajak said that the technology exists but is only now beginning to be used in commercial applications. She said the keys to usability are widespread collection of data and working through data transfer standards. The eight vendors of LIDAR collect information differently and there is a need for standardization. Ms. Pajak said that a map that reflects the surface of the earth is needed, and NASA could help with its creation.

Mr. Buckley said FEMA has also been working with Michael Baker in Harris County, Texas, and with Dan Cotter of TransAmerica to collect digital elevation data on a county-wide basis. This information will be sold to interested parties. The experience gained with TransAmerica will be used to develop standard specifications for use of LIDAR. The level of accuracy of mapping for Harris County was +/- one foot. Mr. Buckley said that extremely accurate data is available from LIDAR and altitude determines the level of accuracy.

Mr. Riebau noted that he has been told that LIDAR can provide 6" of vertical accuracy at any point, and horizontal accuracy of one meter. His company is planning to work with EagleScan of Boulder, Colorado, on a project. That company combines LIDAR imagery with digital photography to determine the contour of the ground. The costs are half that of aerial photography for this project.

Anne Flowers will be developing a marketing plan for the map modernization project. A status report is being prepared and is scheduled for distribution in September. Council members will be included on the distribution list.

Ms. Pajak suggested the possibility of the Council helping with specific outreach needs. She is working on specifications for new DFIRM 2.0 and 2.1 products and is considering developing a survey with questions such as "should base map data be distributed with flood data?" and "how often should FIRMs be updated?" Many questions would be based on recommendations from Council reports. She has developed a 4-page draft, which, when final, will be made available to the Council. The target audience would include members of professional societies, the National Governors' Association, and the National Association of Counties. Mr. Moye suggested adding the All-Hazards Mitigation Council, Land Grant University Centers, and the National Association of Land Grant Centers.

Objectives

Mr. Buckley reviewed the 37 objectives outlined in the Technical Services Division Objectives for FY 1998. Mr. Riebau then developed an assignment list for Council members.

1. *Develop and Implement Outreach Strategy for Map Modernization Program.*

   Anne Flowers, FEMA, has the lead for marketing the map modernization program. A website has been developed but is not being used. Some objective managers are receiving direct e-mail. Exhibits and newsletters will be used. A meeting will be arranged with Members and staff of the Banking and Housing Authorization Subcommittee. Hearings will probably be held next Spring. There will be a conference call with Region II for comments from the states. **(Objective assigned to Mike Moye, Kevin Hickey, Al LeQuang.)**

2. *Develop revised minimum base map standards for hazard mapping and implement for all new hazard maps not later than FY 99.*

   (Objective assigned to Kari Craun.)

   2.5 *Complete assessment of advanced technologies and update guidelines and specifications for study contractors.*

   Discussions have already begun on assessing advanced technologies for topographic mapping.. LIDAR, IFSAR, and GPS are being reviewed. No staff person assigned yet. **(Objective assigned to Kari Craun.)**

3. *Develop flexible, prioritized spending plan.*

   Mr. Buckley is looking at options for the spending plan. Director Witt has identified his priorities for the coming year: (1) Project Impact, (2) Flood mapping and repetitive loss (FEMA is looking at options to deal with repetitive loss, one of which would be to buy or relocate some of those properties), (3) The public assistance program (revamp) under the Stafford Act, (4) Hazard mitigation (streamline), and (5) Customer Service. **(Objective assigned to Mark Riebau.)**

4. *Develop product specifications for DFIRM 2.0 and 2.1.*

   This objective can be separated into four areas: (1) Outreach -- possibly putting it on the website, (2) Implication for other areas of the flood insurance program, (3) Implementation strategy, and (4) Automated mapping techniques. **(Objective assigned to Kari Craun.)**

5. *Develop Cooperating Technical Communities (CTC) Program.*

   (Objective assigned to Brian Hyde.)

6. *Initiate pilot CTC Program.*

Approximately six communities will be identified for pilot projects in FY 99. Project Impact communities are the logical choices for pilot project sites. Impediments are funding and staffing resources. **(Objective assigned to Brian Hyde.)**

7. *Bring ongoing cooperative initiatives to successful completion.*

   There are ongoing initiatives with states and communities; these experiences will help in drafting guidelines. Mary Jean Pajak will discuss this with Bill Parish, state coordinator for Maryland. FEMA is providing some funding but Maryland is contributing greater resources. There is a pilot project with LIDAR technology with Parr Engineering under contract to the state of New York. Georgia is working on Q3.
   (Objective assigned to Brian Hyde.)

8. *Develop standards and procedures for mapping future conditions hydrology.*

   Future Conditions hydrology is on the Council's Agenda. **(Objective assigned to Brian Hyde and Bill DeGroot.)**

9. *Develop architecture for the Technical Services Division's website.*

   Trying to keep website content at a manageable number of pages is the main concern.

   (Objective not assigned.)

10. *Establish partnership with NGS for assistance in establishing and disseminating geodetic data.*

    FEMA expects to get a formal proposal to establish benchmarks. Mr. Gambel said it will be important to get NGS and USGS together. **(Objective assigned to Charles Challstrom.)**

11. *Establish partnership with USGS for assistance in developing and maintaining suitable FIRM base maps.*

    FEMA also will be looking to the Census Bureau and USACE for assistance. **(Objective assigned to Kari Craun.)**

12. *Establish partnership and provide technical assistance to F&WS to improve mapping of CBRS areas.*

    Past difficulties with coastal barriers for the Fish and Wildlife Service will be eliminated. Information needs to be provided digitally so there is not as much guesswork. CBRS issues have arisen recently and FEMA has produced CD digitized boundaries. There is a database on the website. **(Objective assigned to Wendy Lathrop.)**

13. *Establish an SOP for making hazard identification part of the recovery cycle after a presidentially declared disaster.*

    Establishing an SOP following an event offers an excellent opportunity for evaluation.
    (Objective assigned to Brian Hyde.)

14. *Bring 1-800 number on line.*

    The 1-800 number for map status should be up and running before the fiscal year starts. Information will initially be in hard copy but eventually will be computer-driven. Many questions relate to LOMA and LOMR. Operators are familiarizing themselves with the type of questions asked. Two centers will be staffed but there will only be one number. Callers will be switched depending upon their area codes.
    (Objective assigned to Peggy Bowker.)

15. *Complete work on automatic LOMA tracking and letter-generation software.*

Automated LOMA tracking is almost complete. Ms. Pajak said changes would be seen in the next month or two. The Council will receive letters asking for comment in September before the products are finalized. There will be a "Dear Property Owner" cover letter and the LOMA will not be blacked out. Ms. Bowker pointed out that LOMR-F forms are now in Wordperfect and could be filed electronically. Ms. Pajak said this will happen eventually. **(Objective assigned to Wendy Lathrop.)**

16. *Lay groundwork for delegation of authority for issuance of LOMAs and LOMR-Fs to community officials and private sector.*

A formal proposal is expected from the State of South Carolina to serve as the pilot for delegating authority for issuance of LOMAs. General Counsel's office will review it. John Gambel is working with Dewberry and Davis to identify issues before organizing a work group. Following internal review, he would like to present this to the outside community. He has spoken to Mr. Riebau regarding making a presentation to the Council. **(Objective assigned to Mark Riebau, Brian Hyde, Wendy Lathrop, Peggy Bowker.)**

17. *Develop new study processes and redefine the TEC/SC relationship.*

The relationship between technical and study contractors will be reviewed. It makes more sense to get the technical people involved at the beginning. Dewberry and Davis has been participating in some of the meetings and doing background research. Region IV is piloting an internal hydrology review this year. The technical contractors will be involved in the initial time-and-cost meetings in some states so that they can provide information about what has happened previously in that community. **(Objective assigned to Mark Riebau and Peggy Bowker.)**

18. *Fully implement multi-year contracts for flood insurance studies and transfer the procurement process to the three regions.*

Multi-year contracts will save time. Three years is a good length of time for contracts. Small businesses will be considered in the process. **(Objective assigned to Mark Riebau and Peggy Bowker.)**

19. *Continue implementation of 5-year map review process; ensure regional and state involvement.*

The first 5-year Map Review Cycle should be completed by the beginning of 1999. Sixty-five percent of communities have been contacted and the response rate is 45 percent. The remaining 35 percent will be contacted by the end of this calendar year. Follow-up and thank you letters are also being sent.

Cindy Croxdale is creating a database for all mapping needs and would appreciate input. Communities will be prioritized according to the greatest needs. There is concern that local officials responding to the request for information may not be familiar with the flood program and maps. Responses will be reviewed for validity. Categories for issues such as hydraulics or hydrology will be included on work sheets. Mr. Buckley questioned whether vendors would have recommendations for maps. Ms. Bowker said many maps show streets incorrectly and pointed out that Ms. Lathrop began a mechanism many years ago of sending corrections for maps. Ms. Lathrop said that of the corrections she submitted, 50 percent were made. Mr. Buckley encouraged submitting corrections but said that the Agency may not be able to respond immediately. Corrections should be sent to Cindy Croxdale for placement in the mapping file. Ms. Bowker said she would take this information back to her membership.

Brian Hyde distributed copies of the draft comments, which he developed with Bob Watson, on the 5-year map update program. **(Objective assigned to Brian Hyde.)**

20. *Develop improved systems for monitoring contracted flood insurance studies.*

Monitoring Insurance Contracted Studies (MICS) should be operating in October.
(Objective assigned to Mark Riebau.)

21. *Revise FEMA 37, "Guidelines and Specifications for Study Contractors."*

FEMA guidelines for specifications for study contractors are being revised to redefine the relationship between the technical and study contractors and for FY 2000 study starts. **(Objective assigned to Mark Riebau and Peggy Bowker.)**

22. *Revise "Guidelines and Specifications for TEC Contracts" and develop statement of work and RFP.*

Guidelines and Specifications for Technical Evaluation Contractors are being revised to reflect the new relationship between study contractors and TECs. DFIRM 2.0 will be in the new guidelines. Jefferson County, Kentucky, is preparing its own maps, including house locations. **(Objective assigned to Mark Riebau.)**

23. *Oversee award of new TEC contracts to begin in FY 2000.*

Cindy Croxdale has the lead for New Technical Evaluation Contracts. There will be concentrated evaluation between now and next May. **(Objective not assigned.)**

24. *Oversee award of new Map Services Center contract to begin in FY 2000.*

The RFP for the new map service center is closed and proposals are being evaluated.
(Objective not assigned.)

25. *Respond to National Research Council report on alluvial fans.*

Mr. Gambel said there might be new guidance for study contracts. Ms. Bowker was on the committee that produced the report and said there was frustration because there was only enough money to go a limited distance. She said a second study might be funded to look at tools to evaluate hazards on the fan rather than defining what they look like. **(Objective assigned to Peggy Bowker and Brian Hyde.)**

26. *Initiate regulatory reform of 44 CFR, Part 65.5.*

Regulatory changes to 44CFR, Part 65.5, are being developed and will be given to Mike Armstrong within the next four weeks. This issue, involving flood plain management and insurance, has caused problems for years. **(Objective assigned to Mark Riebau and Mike Moye.)**

27. *Complete Riverine Erosion Study required by NFIRA of 1994.*

The coastal portion of the Riverine Erosion Study is being conducted by the Heinz Group. There are three components: mapping, erosion hazards and coastal. An inventory is being conducted and there will be an economic analysis of the inventory. The study should be completed by the end of FY 99. Mike Armstrong has established a panel to help produce the report. **(Objective assigned to Peggy Bowker, Brian Hyde, Don Hull.)**

28. *Complete Coastal Erosion Studies required by NFIRA of 1994.*

The coastal erosion study is not addressing the mapping of erosion. **(Objective assigned to Don Hull.)**

29. *Continue maintenance-level research for coastal erosion rate analysis and shoreline location forecasting.*

Coastal erosion rate analysis and shoreline location forecasting are significant policy issues along both the ocean and Great Lakes coasts. **(Objective assigned to Don Hull.)**

30. *Participate as a member of the Community Rating System Task Force.*

Alan Johnson, of Mr. Buckley's division, is on the Community Rating System task force.
(Objective not assigned.)

31. *Finalize "Guidelines and Specifications for Wave Height Studies."*

(Objective assigned to Mark Riebau.)

32. *Participate as a national coordinator in the Federal Civilian Agency Precise Positioning Service (PPS) Committee.*

    FEMA is working with the Precise Positioning Service (PPS) Committee to get access to unscrambled code. This is a tool that the regions can use in disaster response and they have expressed interest in having this capability. There are limitations on the transferability of the equipment. **(Objective assigned to Charles Challstrom.)**

33. *Revise and republish "Appeals, Revisions and Amendments to NFIP Maps: A Guide for Community Officials."*

    (Objective assigned to Brian Hyde, Wendy Lathrop.)

34. *Represent FEMA at preparation meetings shaping the worldwide "Year of the Ocean."*

    The "Year of the Ocean" is only tangentially related to FEMA. Most issues are commerce-related. There was a White House conference in Monterey, California, earlier this year and a World's Fair in Lisbon later this year will be the concluding event. **(Objective assigned to Don Hull.)**

35. *Improve LOMR process.*

    By improving the LOMR process, letters will be made more understandable and direct and less bureaucratic. **(Objective assigned to Wendy Lathrop.)**

36. *Complete the biennial assessment of flood mitigation fees.*

    A meeting is scheduled for August 20 with Ed Pasterick and Mike Armstrong to present recommendations on the biennial assessment of flood mitigation user fees. **(Objective assigned to Peggy Bowker and Mike Moye.)**

37. *Identify and compile FEMA's regulations and laws, and recommend changes to remove or minimize impediments to FEMA's Modernization Plan.*

    An overall review of FEMA's regulations and laws to remove or minimize impediments to the map Modernization Plan will be conducted. **(Objective assigned to entire Council.)**

Elevation Certificate

Wendy Lathrop sent out a draft of the elevation certificate in June. Approximately 70 comments were received and discussed at the recent Task Force meeting. Changes discussed will be incorporated into a revised version on August 21. Information signed by the surveyor will be in one place and information from the community official will be in a different section. Ms. Lathrop will be circulating a request for participants for the pilot to see if it is workable in the field. There will be another revision based on the comments received following the field testing, which will end in October. The Elevation Certificate should be final by the end of the year and printed in January so that it can be distributed before the expiration date of the current version (May 31, 1999).

Ms. Lathrop said the new certificate will be easier to understand, the information flow will be more logical, and it will be easier to complete. The building diagrams will be changed for clarity. Each required elevation has been assigned a letter, which will be the same throughout, making it simpler to enter the data in the right place on the form after reading the building diagrams. Because the diagrams were formerly interpretative, there was a question as to which building diagram applied. The breakaway wall will no longer be part of the building diagrams and information on vents will be more straightforward. The Task Force discussed including photographs and/or sketches with Elevation Certificate submissions for further clarification of data on the form.

There is a problem getting Base Flood Elevation (BFE) at times for unnumbered "A" zones. The Task Force recognized the variety of sources for that information and now lists the Flood Insurance Study profile on the Elevation Certificate as an optional source.

USGS Presentations

Tour of Printing Plant

The Council was given a tour of the USGS printing plant and shown how maps are produced and printed.

Business Partner Program

Dan Cavanaugh, Chief, Product Management, USGS, described the Business Partner Program of the USGS with 2,600 dealers across the country for distribution of maps. Maps are sold at discount to these partners, who mark them up for resale. The program has been expanded this year to include digital and aerial photography products that are distributed via the Internet as well as through the business partners. There are no copyrights on USGS data. This permits others to add information before the maps are sold to the public.

DRG-scanned maps, captured digitally in 1 degree blocks, will be sold to the public on CD-Rom. Digital line graphs are also sold to the public. As part of the Federal Geographic Data Committee, all USGS graphics must be available to the Clearinghouse on the Internet. High-end data are available, and a primary goal this year is to make metadata available on the Internet.

Products are sold to business partners (mostly "mom and pop" operations) at 40 percent discount for at least 5 copies. As of October 1, digital prices will be reduced dramatically. Current costs are $40 for one file; $60 for two; and a $90-base charge for 7. The new retail pricing will be a base charge of $40 and $1 each after that. A DRG would be $41 for one map. There would be a base charge of $45 for a DLQ. The base price is waived for business partners. Only 6 of 2,600 business partners are selling digital maps. Cost recovery starts with the printing costs. All costs up to that point are considered as part of the mission of USGS and are not included. A quarterquad price would be $40 for the base file plus $5. If FEMA wanted to buy large quantities, the cost would be $2.50 each for digital products. It would take 220,000 quarterquads to cover the whole country and 50 percent have been done so far.

Online Ordering

John Rivers, senior information technician, explained how ordering takes place online. USGS uses the global land information system (GLIS). Products and prices are listed and order forms can be completed on their website. Credit card information can be submitted ½ hour later by telephoning 1-800-252-GLIS. The Treasury Department does not allow acceptance of credit card information over the Internet because of security issues. Credit accounts are available.

Updating Flood Inundation Maps

Joseph Jones described a pilot project covering a 5-county area in Puget Sound, Washington, to update existing flood maps. Local county governments said they needed better flood maps, quickly and cheaply, and said they did not care if they met current standards. To cut expenses and speed production of maps, USGS used modern, high-accuracy elevation data; geographic information system (GIS) technology; and existing hydraulic models from detailed Flood Insurance Studies (FIS) conducted by FEMA. Elevation "surfaces" were created with a GIS. Mr. Jones emphasized the need for a GIS-literate person to do this. A comparison was made of new elevation data to 310 surveyed points using the same benchmarks, where available, as the original studies. The majority of errors were found along slopes because of the inability to find old survey data.

Local governments want these data for: stormwater run-off analysis/design; road/utility mapping; facility planning/construction (wastewater); watershed planning; evaluation of building/development permits; identifying buildable areas -- critical areas; and requests from the public.

Mr. Jones said he is also working with the National Mapping Division to collect LIDAR data having 10-centimeter vertical accuracy. This costs $1,000 per square mile and, he pointed out, as costs go down people will want this data. He noted that flood maps were developed on paper in the 1970s just before the new technology and said, "As this new elevation data comes on line, it would be wise of us to avoid making new maps before the elevation data are available and miss the boat again." He said USGS wants to "get the word out" about this method so that others may use it. There are major cost benefits by estimating hydraulics. There will be additional pilot areas in Puget Sound and other areas that have expressed interest, including Boise, Tennessee, Oklahoma City, Iowa, Missouri, North Carolina, Houston, and Wilmington, Delaware. A Norwegian study team has expressed interest in visiting USGS to see what they are doing.

Gaging stations on rivers have been reviewed. They are stable, indicating no major changes in characteristics in the channels. Mr. Jones said he is sensitive to the Council's concerns and is devising ways to look at the streams more vigorously.

It is more cost efficient to estimate the new flood profile, rather than creating a new hydraulic model; elevation data will provide the most improvements. In summarizing the benefits, Mr. Jones said they include:

- A fraction of the time and cost of the traditional method.
- Inundation areas are precisely determined.
- GIS layers can be intersected with maps of land-use plans, critical facilities, and parcels.

(High-resolution elevation models will be available in most urban areas in the next 10 years.)

Ms. Pajak said there is "real potential" with this approach. From FEMA's perspective, she said, where detailed information is 20 years old, an effort should be made to update hydraulics where necessary. Mr. Buckley noted that USACE did a sensitivity analysis some years ago to determine what component of the hydraulic model is most sensitive. They found it was the roughness coefficient. He said "more surprising" was that the cross sections of geometry within certain limits did not produce much of a difference on water surface elevations.

Mr. Riebau asked, "If we do have a new geometry and we have a new discharge, what is the advantage of not revising the hydraulic model to reflect the new topography and discharge? You may have really old models which do not reflect current conditions." Mr. Jones said that when they started they had original computer models and added, "Whether or not the old model will run is a real question. Operating systems have changed, sometimes old models won't run."

Ms. Bowker asked whether the communities are going to use this information or are they going to send it to FEMA as an appeal. Mr. Jones said the communities are using this information now but he is going to meet with them and FEMA as soon as possible. At the same time USGS was conducting this study, FEMA was contracting for another study nearby.

Overview of the USGS Stream-Gaging Program

Robert Mason described how stream-gage data are collected and used. When the country was expanding westward, stream flood data were used to determine where the water was; they are now used to forecast floods and droughts. The biggest user of stream-gage data is the National Weather Service. USGS provides data for 76 percent of NWS forecasting locations. Data collection includes stage records, flow measurements, ratings, hydrographs, and statistical summaries. Rating changes are not usually issued publicly. They are posted on the map, and the NWS and USACE receive copies. Ratings would not change after one gaging.

Funding for the program is cooperative, with a 50/50 split between state/local agencies and USGS. Over the last 20 years, however, unmatched funding has increased. Ms. Bowker asked whether local people could be trained to assist USGS. Mr. Mason said there was a time when USGS relied on observers to check on streams but discharge measurements are now more complicated. USGS is also concerned about putting volunteers at risk in rivers during high-water situations. He said data are also better when collected by those trained to do it. In 95 percent of cases, stream-gaging is done by one individual at one location.

Mr. Mason said more long-term records are being lost because state and local funding is used for short-term records. Many stream-gaging stations have been discontinued during the last 18 years. Some states have withdrawn from the program and now do their own gaging. In Nebraska and Wisconsin, policy decisions were made to cut costs by not working with contractors and USGS was considered a contractor.

Future Meetings

A teleconference call is scheduled for Tuesday, September 29, 11:00 a.m. EST, 8:00 a.m. PST, for one hour. Ms. Pajak will organize a 'dial-in' number. Changes to the minutes will not be discussed during teleconference calls. They can be made by e-mail or telephone to Melba Gandy.

Another teleconference call will be scheduled for Tuesday, November 3.

The Council will have its next meeting on December 7 and 8 in Washington, D.C., to finalize the annual report. Mr. Buckley will ask FEMA's new Insurance Administrator to attend.

(See later discussion for additional dates and locations)

Recess

Having completed the business of the day, Mr. Riebau declared the meeting in recess at 4:50 p.m.

Tuesday, August 18, 1998

Chairman Mark Riebau reconvened the meeting at 8:25 a.m.

Kari Craun, USGS

Ms. Craun presented a video entitled "How Maps are Made" produced by USGS. It described how USGS makes quad maps of the country, using aerial photography, analytical aerotriangulation, map compilation, cartography, and printing techniques. Mr. Craun apologized that the film was a little outdated and added information about more current methods.

In revising maps, she said, the first step is to gather source information: imagery, geodetic control, aerotriangulation parameters, 'non-image' feature data, existing maps, projection, and georeferencing information. She noted that world maps can be produced from a political perspective (e.g., the Soviet Union would have looked large if the map were produced there, but not if it were produced in this country). Georeferencing is not on FIRMs; references are based on roads. Benchmarks typically refer to vertical reference and sometimes to latitude, longitude, and horizontal positions. All information goes into map compilation or revision and technology is now less expensive with 'plotters.'

Current mapping technology still uses aerial photography to produce the digital orthophotos. Aerial photography is now digital as well as analog. Mr. Riebau asked whether there was a difference in resolution between the two. Ms. Craun responded that there is a lot of debate on this issue but it depends upon the height of flight. The same resolution can be obtained with digital, particularly at low altitudes. When map information is collected at high altitude, huge amounts of information are obtained. She said there are trade-offs in terms of collection of data. The Federal Government and states cooperate in collecting information and, depending upon whether states have the money, the country is covered in seven-year cycles.

Revisions can be done in an analog environment, but USGS uses a digital one -- either raster or vector mode. Film negatives are made directly from digital files and can go to press or print on demand. Mr. Craun said USGS uses the photographic process because it is cheap and "we know how to do it." She said it would require an infusion of initial capital to change from digital to press technology, and USGS has not been motivated to do it.

Ms. Pajak asked whether revision to the contour information would be "piecemeal or for the whole quad." Ms. Craun replied that it is done piecemeal because if someone else did the contouring, there would be difficulties with integration. She said that a lot of contours are now generated automatically by software which would not exactly match those generated by hand.

Results of revisions are revised graphic maps; high-resolution digital separates; high-resolution Digital Raster Graphics (DRG); and replacement DRGs. Ms. Craun stressed the importance for the original scale of the graphic to be disseminated along with the map.

Digital Orthophoto Quadrangles

Ms. Craun presented a series of overhead transparencies describing production of digital orthophoto quadrangles. The following acronyms were described to help in understanding the process:

DOQ: digital orthophotoquad (really means a quarter quad)
DLG: digital line graph (vector format file)
DEM: digital elevation model (raster file)
DTM: digital terrain model
TIN: triangulated irregular network
DRG: digital raster graphic

Mr. Riebau questioned the difference between DEM and DTM, saying that the term "DEM" appears to be used on the East Coast, while "DTM" is used in the Midwest. Ms. Craun said she has seen them used simultaneously for the same thing, adding "you have to know more about it to know which term to use."

FGDC Standards

Ms. Craun distributed a summary of the Status of FGDC Standards as of August 4, 1998, and described the stages required to make changes. Mike Buckley represents FEMA on the FGDC and it has been officially designated as part of FEMA's vision. The committee meets on the first Tuesday of every month. USGS distributes DLG information free of charge. Ms. Pajak noted that FEMA develops DFIRMs into DLG format and questioned whether that is an extra step that is not needed. She asked whether the Spatial Data Transfer Standard (SDTS) would be the standard they should now use. Ms. Craun said, "Potentially," explaining that SDTS is not meant as a format to use within a system. USGS still distributes DLG data. At one point, USGS said it would reach a point at which data would be distributed only in SDTS but has "backed off from that" and now offers data in DLG and SDTS.

In discussing scale of maps, Ms. Craun offered her way of comparing two maps: "I put a quarter on both of them. On the large-scale map the quarter would cover more detail, less ground. The quarter on the smaller-scale map would have cover less detail but more ground."

Ms. Craun said the FGDC Standards should be included in the modernization program. Mr. Riebau asked whether digital elevation standards would also be of interest. Ms. Craun had not heard whether that is under consideration at FEMA.

1998 Annual Report

In opening discussion on production of the 1998 Annual Report, Mr. Riebau suggested that it should focus elements of the Modernization Plan the Council would like to see implemented. Ms. Lathrop, supported by Ms. Bowker and Mr. Hyde, said that while the Modernization Plan should be a large focus, other issues such as the elevation certificate and base mapping have also received the Council's attention and should be included. Recognizing that many issues are covered in the Modernization Plan, Ms. Bowker suggested the Council specifically address those it feels strongly about. She favors continuity from the previous two reports on the status of issues and recommendations and whether they should be continued or dropped. She suggested reviewing Chapter 6 of the 1997 Annual Report to see what progress the Council has made on its goals and include how they were presented in the Modernization Plan.

A general discussion took place regarding the Council's actions and FEMA's progress toward implementing the Modernization Plan. Ms. Craun pointed out that the Council's charter states that the Annual Report should give a description of the Council's activities and evaluate the standards and performance of FEMA's activities to revise and update the mapping process. Mr. LeQuang asked whether the Report is directed toward Congress or the Director of FEMA, noting that it would be different in tone depending upon its destination. Mr. Riebau explained that the Council's charge is to report to the Director of FEMA but there has been a lot of congressional interest in the reports submitted so far. Ms. Bowker suggested "we walk and talk it through before writing assignments are given." One comment made was that recommendations and future suggestions not specifically stated in the Modernization Plan, e.g., erosion hazards and fans, are being addressed in the Technical Services Division objectives; therefore, progress has been made. Mr. Moye noted that if the same format were used, a footnote or asterisk could indicate an issue is being addressed in the Modernization Plan; then at the end outstanding issues could be listed. Mike Grimm pointed out that he is working on riverine erosion, which is not in the Modernization Plan but is an objective. He said the Council may not have been aware that FEMA is now working on this issue. Mr. Hyde wondered whether issues in the Modernization Plan that the Council thought could be done differently, would be included in the Report.

Mr. Moye agreed with beginning at Chapter 6 to determine progress made on the Council's goals and recommendations. He said this should be done without an in-depth discussion but so that the Minutes will reflect how the Council feels. He said there was a legitimate complaint when the first Report was written that not everyone agreed with what was being written. He suggested establishing ground rules so that there is agreement on an issue or there is consensus to note it but move on, rather than trying to convince each other. Issues not agreed on, he said, could be "hammered out in the course of the next several months."

In reviewing the 1997 Annual Report, Mr. Riebau turned to Chapter 7:

The Charter remains the same.
Summary of Interests of Constituent Organizations — should be updated.
Meetings — Ms. Lathrop summarized these last year. Ms. Bowker commented, "I suggest we see if Melba Gandy could do that. She does a good job of summarizing."

Ms. Bowker proposed that, in light of discussions at this meeting on map production, Chapter 6, 6.1.1, page 33, should recommend that all map products from all studies be produced in digital format and the format should involve interaction with communities. Mr. Hyde questioned whether the progress or the recommendation would need to be written in more detail. Mr. Moye and Ms. Lathrop agreed that both should be more detailed. Ms. Craun said the FGDC could be referenced, but "I don't know if we want to get more specific than that."

Mr. Riebau said the Report could refer to the technical objectives FEMA has set for itself as well as to objectives outlined in the Modernization Plan. He suggested that writing out the objectives to which the Council was referring would be easier for the reader to understand, although it would mean that the Annual Report would be more difficult to write. Mr. Challstrom commented that the Report "is a snapshot. It is a living document, it will change." Ms. Lathrop agreed, saying the technical objectives that FEMA has presented to the Council already should be included as progress by FEMA and reflect recommendations the Council has made in the past, "but we can make further recommendations as to where objectives should go." Mr. Moye said both numbers and written objectives should be used and Ms. Lathrop suggested using parenthesis.

Ms. Lathrop thanked Sally Magee for the helpful chart on the technical objectives which was e-mailed on July 13. Ms. Magee noted that everything in the Modernization Plan is referenced by one of the objectives. Mr. Hyde suggested including a table in the Report that would compare FEMA's Modernization Plan and Technical Objectives with the Council's identified goals and issues. This would allow the Council to identify any issues not yet addressed by FEMA. Mr. Riebau agreed. Ms. Lathrop questioned its usefulness to others. Mr. Moye said, "that is the reason for executive summaries" which give enough information for those wanting the highlights, while the full Report gives details. He suggested constructing the Report in a way for people to get the information they need. Ms. Croxdale suggested the need to be "constructively critical" by looking back on last year's Report to see where progress has been made and modifying future direction if necessary.

Ms. Bowker said she would write the Chapter 6 progress on goals. Ms. Craun noted, "We reviewed the FGDC standards-in-progress and made the recommendation that data produced be in compliance with them." Ms.

Bowker said a specific recommendation could then be made in the "Recommendations" section. Mr. Riebau noted this was "bouncing back from FEMA program to Council recommendations." He asked whether progress made by the Council or FEMA should be considered. Ms. Bowker replied, "Both. This was included before FEMA released its CD-ROM maps -- it was a big deal. Now if they release them in digital rather than a scanned format, it would be even better." She also noted that the Council could report progress in learning more about the USGS mapping, printing, and distribution procedures through the presentations heard during this meeting.

Ms. Craun asked whether mention should be made of Council member participation with FEMA on developing certain aspects of the Modernization Plan. Ms. Bowker suggested that the Council appoint a liaison. She asked whether there is an objective regarding transferability of data. Ms. Craun itemized the following objectives tied to this goal:

FEMA Objectives 2., 2.5, 4, 9, 10, 11, 12, 21, 22, and 32

Ms. Bowker said that Ms. Magee's chart would be used as a basis under Goals. Ms. Magee said she would update the chart and Mr. Hyde said this could be done by e-mail and telephone.

Under Recommendations for 1998, Ms. Bowker said she felt strongly that there should be reemphasis on the need for archival retention of maps (see recommendation 1, page 36, 1997 Annual Report). She suggested expressing "Disappointment of the Council over lack of progress." The Council, by acclamation, agreed.

With regard to Recommendation 2, (page 36, 1997 Annual Report) Distribution Process, the Map Service Center contract has been let. The Council would like to see the final negotiated scope of work -- not from the financial side, but the function side. Jeff Sparrow, Dewberry and Davis, said the review of the Map Service Center fees was postponed until the new contractor is selected.

Regarding Goal 5, "Identify a base map standard of the U.S.," Ms. Craun pointed out that under the first sub-bullet about working with other agencies, it should be mentioned that FEMA and USGS have begun meeting to see how they can cooperate.

Regarding Recommendation 3 (page 38, 1997 Annual Report), "Forms," Ms. Bowker said the forms are distributed on the Internet but Ms. Lathrop noted that some are not.

Mr. Moye suggested that, before a lot of written material is developed, everyone should agree to look at the 1997 Report to see what revisions should be included from their perspective, and then e-mail the person assigned to write the applicable chapter. Ms. Bowker doubted that people would have time to do that. Mr. Moye then asked whether the budget would allow the Council to e-mail comments to Melba Gandy, have her put together the consensus, and then mail it out. Mr. Riebau said his thought was that each person should pick a chapter now and start it. Ms. Bowker responded, "I really have strong feelings about wanting to know what is going in the 'Issues' and 'Future Directions.' I had heartburn over it last year."

Recommendation 4, page 38, 1997 Annual Report, H.3340 is moot.

Regarding Chapter 4, page 25, 1997 Annual Report, Ms. Bowker noted that the Council said in 4.2.1 that FEMA should consult with the FGDC, therefore "we can say they should review the standards and get more actively involved and report that they have."

Under "Base Mapping Partnerships" she said "we can use the discussion we are having with the USGS and Census Bureau." Ms. Pajak noted that discussions with the Census Bureau are planned but have not taken place yet.

Mr. Hyde said he would talk to Mr. Buckley to see what progress has been made under 4.5, "Community Involvement." Ms. Pajak said some pilot efforts are underway with some Regions doing more than others. Ms. Bowker said she had heard that some communities were not informed that their maps were converted to county-wide DFIRMs. Mr. Hyde pointed out that a DFIRM was not considered a new study. Mr. Riebau said the community should be involved throughout the study process. Mr. Grimm said he was recently in Nevada on a technical study contract and the FEMA headquarters was contacting the community. There was a Region VI workshop geared toward technical issues and guidelines. Ms. Bowker said that communities that could have provided input were not

included. Mr. Hyde and Mr. Grimm will discuss this further. Ms. Pajak said Ms. Bowker had raised a critical issue that "we haven't thought out well. If we get money, some communities will be doing format studies that are important for them, not us. It is a good thing to raise -- what we consider to be changes to the maps and what communities consider to be changes may be different." Mr. Riebau pointed out that if a date is changed, communities "will see it as a new map." Ms. Croxdale agreed that there should have been community involvement and Mr. Grimm agreed that there should be a community workshop. Mr. Hyde said that there should be a study contractors' workshop because "contractors are part of the communications breakdown."

Ms. Bowker announced: "Chapter 6 is done!"

Base Maps and Base Map Standards -- John Gambel, Project Engineer, Hazards Study Branch, FEMA HQ

Mr. Gambel distributed handouts on the development of base map standards. He explained that FEMA's Associate Director for Mitigation, in conjunction with the Federal Insurance Administration, will be publishing a notice in the Federal Register as an official call for general mapping issues. This could eventually lead to rulemaking. This was done routinely for several years in the Federal Insurance Administration and is a good way to determine what issues interest the public. Stakeholders, Council members, and their constituent organizations will receive letters sometime in September.

Meetings on base map standards have just begun. Copies of recent work group meeting notes were distributed. Following the work group meetings it was decided that so many issues concerning base maps and DFIRMs were raised, a decision matrix should be developed. Because so many communities are developing their own base maps, there is a need for minimum standards. Issues such as roads, streams, hydrography, and property boundaries need to be addressed.

There was also a meeting at USGS regarding digital orthoquads. Digitgal orthoquads do not have road names. Not all communities have orthoquads. Other issues include (1) what would be the problems in blending FEMA's work map, which has a lot of details, into a traditional ortho map? Who would pay for them? (USGS now partners with states and other federal agencies) Could USGS provide additional ortho maps for a given area within a reasonable amount of time? Ms. Craun noted that she had distributed a DOQ status graphic earlier. The USGS goal is to have complete coverage of the nation by 2004. She said USGS does cooperate with other agencies and that the Natural Resources Conservation Service and the Farm Services Administration have been major partners. A steering committee of federal and state agency representatives is making decisions on the format for DOQs. FEMA has been approached about attending a steering committee meeting and partnering. The normal process is to determine the agency's priorities, then approach the states to investigate cooperative funding. Oftentimes there has been a four-way split, with each group paying $1,000 for the DOQ. Mr. Gambel said other issues include long-term maintenance and whether a product is proprietary.

Mr. Hyde asked, "how close to a done-deal is having DOQs the base map of choice?" He said from his own experience, which may have been affected by the quality he has seen, he prefers line maps to ortho maps. Mr. Gambel said the decision has not been made, partly because FEMA would be looking to USGS as the supplier. He said FEMA wants to be as flexible as possible and would defer to a community or state that has a map it likes that meets certain standards.

Mr. Riebau said it would be helpful to see examples of flood rate maps. Ms. Craun said there is a pilot project in Maryland to put extra data on the DOQ. Ms. Pajak responded that additional data would make the file size too unwieldy, and said there is a resampling technique to thin out the data. Mr. Bowker commented that the city of Reno has aerial photography for the city on one CD. Ms. Craun noted that the USGS file size for a quarter quad is typically 40-50 megabytes. She said she did not recommend that they be transferred over the Internet. Ms. Pajak said that is a "big issue, how many of those would be in typical county-wide data?" She noted that she, Mr. Gambel, and Mr. Buckley are all involved on the technical side of the work groups to make sure such issues are included in survey questions.

Feedback is requested as soon as possible. Mr. Gambel said he would be working on developing a timeline of critical dates. Ms. Craun said that it is good the survey is being done but it would delay completion of baseline standards in 1998. Ms. Pajak responded, "I think we need to get more feedback before we finalize the standards. We are between a rock and a hard place." She said it is also important to know how communities feel if their own

maps are more accurate than a DOQ, or whether a map would be acceptable with part digital and part ortho lines. Mr. Gambel stated, "Why don't we make a commitment to you on the Council to get that feedback. I would like to give it some thought and work with Mark and Kari on the operating procedures."

Mr. Riebau asked whether FEMA would be willing to produce maps that do not necessarily look alike. Mr. Buckley responded, "That sounds like map modernization -- not just what FEMA needs, but meeting the needs of the community and customizing maps by adding future conditions hydrology. I think that is the main message in customizing those maps." Mr. Riebau responded, "That's fine. I don't know if the people in this room could make that decision. We could, however, make that a recommendation." He pointed out that beyond the adequacy of the map, appearance and consistency are important to some people.

Mr. Riebau asked (for inclusion in the Meeting Minutes) whether it would be possible to notify the Council of objective team meetings. He suggested that Council representatives could have input to the agenda and write comments following receipt of the minutes. Mr. Gambel agreed, saying that Ms. Craun could also be included (via conference call) in the meetings. The meetings are held monthly, with the next scheduled for August 26. Mr. Buckley said any comments or questions should be directed to Mr. Gambel.

Ms. Craun asked what continuing participation the Council would have with regard to the standards -- whether it would be involved in looking at revised FIRMs and formats. She said, "we need to have some idea of where we are going. It will play heavily on what is accomplished." Mr. Riebau noted that the final appearance of the maps, whether electronic or paper, would play a large role in user reaction. He said this issue should be a high priority on the Council's agenda for the future.

Mr. Buckley commented, "I think the Council can be effective in providing to us general statements for recommendations, without getting too much into specifics. There are so many issues to look at. Pick the issues you want to get most involved in. I would recommend the Council take that general approach. I don't want to exclude interests but if there is an item of particular interest to the Council, then get into more detail."

Meeting Calendar

Following discussion, the following dates and locations for future meetings were agreed upon:

- December 7-8, 1998, Washington D.C. (Mr. Buckley will contact the Heinz Center to use its facility.)
- March 1-2, 1999, Louisville, Kentucky.
- May 27-28, 1999, Portland, Oregon, in conjunction with the ASFPM meeting
- September 13-14, 1999, Washington, D.C. area
- December 6-7, 1999, no location set.

There will be five teleconference calls, dates to be determined. Ms. Pajak will arrange for a "dial-in" number.

Future Conditions Hydrology -- *Mike Grimm, FEMA Project Officer, Western Studies Team*

Mr. Grimm gave a brief presentation on future conditions hydrology based upon his report to the Council entitled "Modernizing the Mapping Program: Considerations for Using Future Conditions Hydrology for the National Flood Insurance Program." He explained that by using the data for information purposes, e.g., for floodplain management, one map could serve two purposes. This would accommodate insurance requirements for displaying existing conditions. Mr. Riebau asked whether there would be equity if people outside floodplains could build without regard to runoff, which could cause future problems for others. He said, "This should be part of the debate that needs to be held." Mr. DeGroot asked, "Do you want to prevent flood disasters or have perfect equity?" He added, "The water volumes go up, detention ponds combine. That is why we want to use the future. That is where it is going, unless regional flood control dams are built, and you know what they are going to do. Otherwise, you have to accept that increased water volume coming off pavement will increase the total volume."

Mr. Grimm pointed to page 3 of his report, which lists some of the principal constraints and benefits of using future conditions data. This list is being updated and had not yet been internally reviewed. He noted this is the type of information that could be used in customizing maps. The map could show future urban drainage in a community and at the same time could have existing FEMA conditions for insurance rating purposes. It could be updated as the community developed. Mr. Hyde said he did not like going to communities with only general information and regulatory information on their maps. He said there is political pressure from the building community to work only with present conditions rather than potential maximum developed conditions, and he would resist that kind of option. He said, "it would be good to get the legal opinion now, no matter what option is pursued."

Mr. Buckley commented, "You can't be 100 percent fair across the board. Mother Nature intrudes. Mother Nature is unfair. The only effective way of dealing with fairness issues is information and awareness. If people build on a boundary line, they would know they are still at risk. One of our objectives is awareness in the modernization initiative."

Ms. Pajak said a problem with the mapping program now is that when revisions are published there is no requirement to look at hydrology and that data are sometimes 20 years old.

Mr. Riebau noted that he had received a draft letter for his signature regarding future conditions hydrology. He said this was one of the issues the Council had said it would review and made recommendation on in 1998 but has not had the time. Mr. Moye asked, "Why select this one issue above all the others to write a letter, when there are all these other issues and recommendations?" Ms. Bowker said she would "be more comfortable" seeing it in the Report. She suggested Mr. DeGroot give a presentation on this subject next year. Mr. Challstrom said that the Council probably was not yet ready to endorse the letter.

Mr. Moye said land use is a local issue and did not see how future conditions could be incorporated into maps. Mr. DeGroot said even if information is advisory it helps people know that if they buy a house they may one day be in a floodplain.

Mr. Challstrom pointed out that objective number 1 of the map Modernization Plan calls for developing and implementing an outreach strategy. NGS/NOAA has experience in conducting workshops with professional societies and state and local agencies. Ms. Bowker said that would fit into the Council's issues from last year, and Mr. Moye added that it could be expanded to have a workshop integrated into Project Impact. Mr. Riebau suggested it be part of the Council's recommendations. Ms. Lathrop thought this suggestion had two parts: (1) A workshop with community officials could be modeled on the NGS experience, and (2) the possibility of integrating with Project Impact could be investigated. She said it could be "more than just how to read the map; it could also include better floodplain management." Mr. Challstrom said it would be worthwhile to discuss this with FEMA to determine the focus for technical areas.

Mr. Buckley agreed with the recommendation. Although FEMA offers training at Emmitsburg, Maryland, he said it should reach out to organizations and be more proactive in taking information and expertise to meetings. He asked to be kept posted on dates for professional organization conferences. Ms. Bowker pointed out that those who belong to professional organizations probably need the information less than others. She told of a person in Arizona who was forbidden to take his city car beyond city limits to go to a training meeting. He had to take annual leave and use his own car to go to the meeting. She said some elected officials will not appropriate funds and there should be a method to reach out to people.

Mr. Hyde counted 25 issues and 13 future directions from last year's report. He volunteered to create a table and e-mail it to everyone listing numbers and titles of the 38 items, suggesting they either become or remain issues, become recommendations, or get dropped. He would make his own personal recommendations about each one. Everyone would contact Mr. Hyde before the conference call. If there is time before the call, he would let them know the results of the poll. He would not address any new topics. The responses would be discussed during the conference call.

The decision was made to begin this process by discussing Future Directions (see page 27, the Council's 1997 report). The following determinations were made:

5.2.1 Stream Gages: **ISSUE**

5.2.2 Future Conditions: **ISSUE**

5.2.3 Debris/Ice Jams: **FUTURE DIRECTION**

5.2.4 Erodable/Migrating Streambeds: **ISSUE**

5.2.5 Alluvial Fans: **ISSUE**

5.2.6 Subsidence: **FUTURE DIRECTION**

Debris/ice jams, erodable/migrating streambeds, alluvial fans, and subsidence were discussed at length. Revisions are being made on ice jams. Mike Grimm is working on riverine erosion. Mr. Buckley said the policy for subsidence does not work for all situations. FEMA is participating in studies in Harris County and is helping to purchase a digital elevation model. He said, "this may be the baseline model upon which to make future decisions." Ms. Bowker suggesting putting them in the report as "unique hazards," noting that they are included in the objectives. Ms. Lathrop suggested the summary include "we acknowledge the importance of these issues," keeping them as Future Directions. Mr. Riebau said that Ms. Bowker and Mr. Hyde will be working with Mr. Grimm on these issues. Mr. Hyde suggested the two middle items are Issues and the other two are Future Directions. Mr. Buckley said they have been dealt with under the community rating system as unique hazards, reports have been prepared, and guidance has been developed for communities. Reference should be made to those documents. Ms. Craun pointed out that the report states, "Issues are derived from Future Directions after the Council has discussed them sufficiently." Ms. Bowker suggested adding a paragraph saying "this is one of our priorities because FEMA is moving ahead."

5.3 Letters of Map Correction: **ISSUE**
Mr. Moye said there is a pilot in South Carolina.

5.4 Multiple Hazards on FIRMs: **ISSUE**

5.5 Map Features and Attributes: **ISSUE**

5.6 Map Determination**: FUTURE DIRECTIONS**

5.7 Communication and Public Education: **ISSUE**

5.7.1 Streamlining Floodplain Regulations to Automate Permitting Procedures and Revisions: **To be determined whether this is within the scope of the Council's charge.**

5.7.2 Federal Permit Requirements for the Maintenance of Flood Control Facilities: **RECOMMENDATION.**

Ms. Lathrop said FEMA and USACE should discuss the regulations. Mr. Buckley pointed out that USACE is going through a transition with its Challenge 2001. He said they are making a major shift on flood control and the 1999 FEMA budget has $25 million to be used to fund non-structural mitigation buyouts. Mr. Challstrom said there is the likelihood of an increase of funds for next year and a Council endorsement would be useful "in a congressional setting." Mr. DeGroot expressed concern that the maps are wrong if the local government is not allowed to maintain a channel. He said "either redo the maps or make it easier to maintain the maps." Mr. Riebau commented, "My personal view is that if they can't maintain the channel then FEMA should change the maps to accurately reflect the increased potential for flood damages." Mr. Hyde said this is mostly wetland vegetation. Mr. Grimm said this is an issue FEMA is dealing with in California. Mr. DeGroot said this is of concern in California, where permits were finally given but USACE was not going to let them clean the channel.

Ms. Lathrop said she would draft and circulate a **RECOMMENDATION.** Mr. Buckley said "In a broader context, does there need to be a follow-up certifying that the channels are being maintained?"

5.7.3 Correlating Floodplain Boundaries to Actual Flooding Probabilities: Mr. Hyde wrote this last year. Ms. Craun said it is still a Future Direction. Ms. Lathrop said the last paragraph, dealing with a continuum, could be incorporated into Current Issues rather than Future Directions while the rest would still be under future hydrology. Mr. Hyde said it would fit into future workshops.

Mr. Hyde asked whether Future Directions needs to be rewritten. Mr. Riebau said he would look at it.

Issues, page 9, 1997 Annual Report:

3.1.1 Map Availability; Accuracy and Reliability of Data: **RECOMMENDATION**

Ms. Bowker said there is still work to be done in the local communities and she is not sure it is included in the Modernization Plan or objectives. Mr. Riebau said he thought there was an intention to do it in the standard guidelines. Mr. Grimm said it would be under Technical Objective #17 and Ms. Pajak suggested reviewing the work plan to make sure that there is consistency.

3.1.2 Age of Maps: **RECOMMENDATION**

Mr. Riebau said there should be a strong message to implement the Modernization Plan. Ms. Craun volunteered to write the Recommendation.

3.1.3 Floodplain Maps for Unstudied Communities and for Communities with D-Zones: **RECOMMENDATION** for Unstudied Communities; **ISSUE** for D-Zones.

3.1.4 FEMA's Map Modernization Plan: **RECOMMENDATION** that it be implemented.

3.2 Map Preparation

3.2.1 National Minimum Standards for Base Maps: **RECOMMENDATION**
Ms. Craun will write the Recommendation endorsing specific objectives.

3.2.2 Connection of Mapped Data to Benchmarks: **ISSUE**

3.2.3 Hydrologic and Hydraulic Data for Detailed and Approximate Floodplain Delineations: **ISSUE**

3.2.4 Information from Post-Disaster Verification of FIRMs: RECOMMENDATION.

Mr. Hyde will write the Recommendation.

3.2.5 Distinguishing Among Engineering Needs, Map Maintenance Needs, and Other Restudy Needs in the FEMA Budget Process: **RECOMMENDATION**

Mr. Riebau said the Recommendation would be to continue the 5-Year Update.

3.2.6 Participation by Local, State, and Private Entities in Flood Insurance Studies

3.2.7 Partnership Between FEMA and State and Local Governments: **RECOMMENDATION.**

Ms. Lathrop will write the Recommendation linking 3.2.6 and 3.2.7.

3.2.8 FEMA's Five-year Update Process: **RECOMMENDATION**

Mr. Hyde will write the Recommendation supporting implementation.

3.2.9 Graphic Presentation of Planimetric Features: **ISSUE**

3.2.10 Graphic Presentation of Benchmarks: **ISSUE**

3.2.12 Procedures for Enhancing Unnumbered A-Zone Floodplain Information: **ISSUE**

3.2.13 LOMC Guidelines and Forms: **ISSUE**

3.3 Distribution of Maps

3.3.1 Distribution Outlets for Paper Maps: **ISSUE**

3.3.2 Distribution of Mapping Information: **ISSUE**

3.4 Map Determination

3.4.1 Accuracy of Determination: **ISSUE**

3.5 Communication and Public Education

3.5.1 Communication Among Flood Practitioners: **ISSUE**

3.5.2 Public Information and Education Programs for Local Communities: **ISSUE**

3.5.3 Multi-Media Programs to Enhance Awareness of Recent and Historic Floods: **ISSUE**

3.5.4 FIRMs in Flux: **ISSUE**

3.5.5 Increasing Awareness That Floods Greater than 100-Year Frequency Occur: **RECOMMENDATION**

Mr. Hyde will write the Recommendation suggesting that FEMA should consider discussing what is a 100-year flood.

Mr. Riebau said he would ask Melba Gandy to write a summary of the Meeting Minutes. Ms. Bowker suggested that Ms. Gandy also write the Introduction. It was decided that Council members would forward their comments to Ms. Gandy to incorporate and then send to everyone.

Mr. Riebau will rewrite the Forward and Preface.

The Introduction can be updated. Kevin Hickey's resume should be included.

Ms. Lathrop will work on the community work the Council has done and the ongoing review of documents.

Recommendations, Future Directions, Progress, Appendices, and Figures will need some editing.

Mr. Riebau asked that comments be sent to Melba Gandy by September 8 so that she can compile and circulate them back to the Council members by September 22, one week before the teleconference call.

Mr. Buckley said the Report will be very important and timely since it will be published shortly after the Administration will be submitting its budget to Congress. Mr. Riebau noted that the American Society of Civil Engineers may be willing to testify before Congress. Mr. Buckley said he has invited Mike McDermott, FEMA's budget examiner at OMB, to the Council's December meeting.

Adjournment

There being no further business, Ms. Bowker moved to adjourn the meeting. The motion was seconded by Ms. Craun and passed by acclamation. The Chairman declared the meeting adjourned at 3:40 p.m.

Respectfully submitted,

[original signed]

Mark A. Riebau
Chairman